<u>In the Specification</u>:

On page 1, after the title insert the following:

RELATED APPLICATIONS

This is a U.S. national stage of application No. PCT/DE2004/000333, filed on 23 February 2004.

This patent application claims the priority of German patent application no. 103 13 609.6, filed 26 March 2003, the disclosure content of which is hereby incorporated by reference.

FIELD OF THE INVENTION

On page 1, delete the paragraph beginning on line 9 through line 11 in its entirety.

On page 1, before line 13, insert the following heading:

BACKGROUND OF THE INVENTION

On page 2, before line 14, insert the following heading:

SUMMARY OF THE INVENTION

On page 2, amend the paragraph beginning on line 14 as follows:

~~The invention is based on the object of specifying~~ <u>One object of the present invention is to provide</u> a semiconductor laser ~~whose~~ <u>having a reduced</u> sensitivity to disturbances caused by fed-back light ~~is reduced~~ <u>that is achieved</u> in a technically comparatively simple manner.

On page 2, delete the paragraph beginning on line 19 through line 22 in its entirety.

On page 2, amend the paragraph beginning on line 24 through page 3, line 3 as follows:

~~A~~ This and other objects are attained in accordance with one aspect of the present invention directed to a semiconductor laser ~~according to the invention contains~~ comprising at least one absorbing layer within the laser resonator, said absorbing layer reducing the transmission T_{Res} of the laser radiation in the laser resonator and thus decreasing the sensitivity of the semiconductor laser to disturbances created by radiation fed back into the laser resonator.

In this case, the transmission T_{Res} of the laser resonator is understood to mean the factor by which radiation having the laser wavelength is attenuated during a full circulation in the resonator. A full circulation in the resonator means that the radiation covers the distance between the resonator mirrors once in both directions, i.e., the radiation makes a "round trip" in the resonator. If the resonator length is L, then the light will pass a distance of 2L for a full circulation. The transmission T_{Res} takes account only of resonator-internal losses such as absorption or scattering, but not of the reflection losses at the mirrors, which occur particularly in the case of the coupling-out mirror. A typical value for the transmission T_{Res}, which in principle is less than 1, is approximately 0.99.

On page 4, delete the paragraph beginning on line 22 through line 24 in its entirety.

On page 4, delete line 26.

On page 4, before line 28, insert the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS

On page 5, before line 6, insert the following heading:

DETAILED DESCRIPTION OF THE DRAWINGS

On page 5, amend the paragraph beginning on line 15 as follows:

The person skilled in the art is aware of various embodiments of such surface emitting semiconductor lasers with further, in part also patterned, intermediate layers, for example from ~~DE 100 38 235 A1~~ USP 6,798,810 B2 and the documents cited therein. By way of example, this may involve passivation layers 7 or further layers for spatially delimiting the current flow.

On page 6, amend the paragraph beginning on line 4 as follows:

The absorbing layer 8 may be contained for example in one of the Bragg mirrors 4 of the surface emitting semiconductor laser. In this case, it is necessary, if appropriate, to adapt (in a manner well known to a person with ordinary skill in the art) the layers of the Bragg mirror 4 which surround the absorbing layer 8 in order to compensate for a disruption in the periodicity of the layers that is brought about by the insertion of the absorbing layer 8. Instead of one absorbing layer 8 it is also possible to provide a plurality of absorbing layers.

On page 6, before line 15, insert the following paragraph:

A further explanation may be helpful concerning the above-mentioned disruption in the periodicity of the layers. A Bragg mirror consists of a plurality of alternating layers of two different materials. Typically, each of the alternating layers has a thickness of n* lambda/4, wherein "n" is the refractive index and "lambda" the wavelength. This periodicity results in a

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high reflectivity of the Bragg mirror because of a constructive interference of the partial light waves reflected at the plurality of interfaces. The insertion of an absorbing layer into the periodic layer stack of a Bragg mirror may distort the constructive interference of the light waves because the thickness of the absorbing layer is typically not equal to n* lambda/4. This causes a phase mismatch of the reflected light waves and reduces the reflectivity.

On page 6, amend the paragraph beginning on line 33 through page 7, line 20 as follows:

The optimum value for the transmission T_{Res} of the laser resonator in order to achieve a minimization of the sensitivity of the semiconductor laser to disturbances created by fed-back light also depends on the reflectivity of the coupling-out mirror 4 and the output power of the semiconductor laser. Figure 2 shows a simulation of the noise amplitude of the output power ΔP, which serves as a measure of the sensitivity to disturbances, as a function of the transmission T_{Res} of the laser resonator for three different reflectivities R of the coupling-out mirror 4. The curves in Figure 2 were obtained for a laser output power of approximately 1mW. The curve 12 shows the sensitivity to disturbances for a reflectivity of the coupling-out mirror of R = 99.3%, the curve 13 for a reflectivity of the coupling-out mirror of R = 99.6%, and the curve 14 for a reflectivity of the coupling-out mirror of R = 99.8%. The simulation illustrates that a minimum sensitivity to disturbances can be obtained only with specific combinations of the transmission T_{Res} of the laser resonator and the reflectivity of the coupling-out mirror 4. By way of example, an advantageous value for the transmission T_{Res} of the laser resonator which can be set by means of the parameters of the absorbing layer 8 is approximately 0.985 in accordance with the simulation for a reflectivity of the coupling-out mirror of R = 99.6%.